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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/502,381

07/22/2004

Petrus Maria De Greef

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PHILIPS ELECTRONICS NORTH AMERICA CORPORATION
INTELLECTUAL PROPERTY & STANDARDS
1109 MCKAY DRIVE, M/S-41SJ
SAN JOSE, CA 95131

EXAMINER

MOON, SEOKYUN

ART UNIT

PAPER NUMBER

2629

DATE MAILED: 04/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/502,381	DE GREEF, PETRUS MARIA	
	Examiner	Art Unit	
	Seokyun Moon	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>07/22/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claims 1-5 and 10** are rejected under 35 U.S.C. 102(e) as being anticipated by Kasahara et al. (U.S. Pub. No. 2001/0054955 A1, herein after referred to as "Kasahara").

As to **claim 1**, Kasahara [*Abs. Lines 1-4*] teaches a method for driving a display panel ("*display device*") including cells each corresponding to a pixel in response to a video signal ("*input image signal*") including fields where each field is formed by a plurality of subfields ("*Z subfields*") [*Par. (0027) Lines 1-5*], the method comprising steps of adjusting the number of subfields per field ("*per each picture*") in accordance with

predetermined parameters ("*brightness*" and "*various other data*") [*Par. (0027)-(0032)* and [*Par. (0050) Lines 3-6*].

Kasahara inherently teaches expressly a method of adjusting the number of the subfields for a next field (any combined period of one of plural lateral frame data display periods with the corresponding period of adjusting the number of subfields of the one of plural lateral frame data) during the processing of a current field (a combined period of current frame data display periods and a corresponding period of adjusting the number of subfields of the next frame data) since it is required for Kasahara to determine the number of subfields included in a field to be displayed before the field including the subfields is actually displayed.

As to **claim 2**, Kasahara [*Fig. 9*] [*Abs. Lines 1-4*] teaches a device ("*drive pulse controller*") for driving a display panel including cells each corresponding to a pixel in response to a video signal ("*input image signal*") including fields wherein each field is formed by a plurality of subfields ("*Z subfields*") [*Par. (0027) Lines 1-5*], the device ("*drive pulse controller*") comprising means (a portion of "*parameter setting device 1*" determining the value of "*Z*") [*Fig. 9*] for adjusting the number of subfields per field in accordance with predetermined parameters ("*brightness*" and/or "*various other data*") [*Par. (0050) Lines 3-6*].

Kasahara inherently teaches expressly the adjusting means to adjust the number of the subfields for a next field (any combined period of one of plural lateral frame data display periods with the corresponding period of adjusting the number of subfields of the one of plural lateral frame data) during the processing of a current field (a combined

period of current frame data display period and a corresponding period of adjusting the number of subfields of the next frame data) since it is required for Kasahara to determine the number of subfields included in a field to be displayed before the field including the subfields is actually displayed.

As to **claim 3**, Kasahara teaches the adjusting means (a portion of "*parameter setting device 1*" determining the value of "*Z*") is part of a regulating means ("*parameter setting device 1*") for regulating the number of subfields per field in accordance with predetermined parameters ("*brightness*" and/or "*various other data*") [*Par. (0050) Lines 3-6*].

As to **claim 4**, Kasahara [*Figs. 4 and 9*] teaches the device ("*drive pulse controller*") comprising means (a combination of "*subfield processor 8*", "*computing unit 16*", and "*delay 10*") [*Fig. 9*] for applying a sustain-level signal to cause a sustaining discharge in a discharge cell for emitting light therefrom [*Fig. 4 and Par. (0010)*].

Kasahara inherently teaches the device comprising
means (a combination of "*parameter setting device 1*", "*subfield unit pulse number setting device 6*", and "*picture signal-subfield corresponding device*") for regulating the sustain-level (as shown in *Fig. 4*, the voltage level of the sustain pulse is limited under a voltage level, and it indicates that the sustain-level is controlled.),

characterized in that said adjusting means (a portion of "*parameter setting device 1*" determining the value of "*Z*") is part of said sustain-level regulating means.

As to **claim 5**, Kasahara teaches the regulation (adjusting the number of subfields) to be an adaptive regulation (adjusting the number of subfields on the basis of brightness of inputted image signal) [*Par. (0050) Lines 3-6*].

As to **claim 10**, Kasahara teaches a display panel apparatus ("*PDP display device*") comprising the display device ("*drive pulse controller*") [*Abstract*].

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kasahara.

Kasahara does not teach expressly the next field to be a succeeding field.

However, if the next field is not a succeeding field but just one of plural next fields, it is required for Kasahara to include additional storage devices storing the number of subfields for the succeeding field and the number of subfields for the one of plural next fields at the same time since Kasahara determines the number of subfields for each one of plural field data ("*for each picture*") [*Par. (0027) – (0032)*].

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to specify the next field to be a succeeding field in Kasahara to

prevent the use of additional storage means such as memories, and thus to simplify the driving circuit structure and to reduce the production cost for the display device.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kasahara in view of Kasahara et al. (U.S. Pat. No. 6,331,843 B1, herein after referred to as "Kasahara_2").

Kasahara does not teach the predetermined parameters to include image-load, temperature, and/or power-supply capabilities.

However, Kasahara_2 teaches a device comprising a mean adjusting the number of subfields on the basis of brightness data and brightness detecting means which detects the brightness data comprising power consumption detecting means and power consumption detecting means.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include Kasahara_2's brightness detecting means in Kasahara to implement a function of detecting power consumption and temperature of the display device to optimize the image display on a panel display device.

As to **claim 6**, most of the claim limitations have already been discussed with respect to the rejection of claim 4 except for the predetermined parameters including parameters which have an impact on the sustain-per-time level.

Kasahara modified by Kasahara_2 as discussed with respect to the rejection of claim 7, teaches the predetermined parameters including parameters ("*temperature*", "*brightness data*", and "*power consumption*") which have an impact on the sustain-per-time level.

8. **Claim 9** is rejected under 35 U.S.C. 103(a) as being unpatentable over Kasahara in view of Hancock et al. (U.S. Pat. No. 6,271,866 B1, herein after referred to as "Hancock").

Kasahara does not teach memory means for storing fields which comprises a dual-port memory for storing more than two fields.

However, Hancock teaches a dual port memory system being used in a plasma display.

It would have been obvious to one of ordinary skill in the art at the time of the invention to include Hancock's dual port memory system in Kasahara's drive pulse controller to allow simultaneous writing and reading of the image data while avoiding the problems of address crossover, address and data multiplexing, and added cost and circuit board area [*Col. 1 Lines 24-29*] [*Col. 2 Lines 8-14*].

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Conclusion


9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Seokyun Moon whose telephone number is (571) 272-5552. The examiner can normally be reached on Mon - Fri (8:30 a.m. - 5:00 p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

March 28, 2006
S.M.

AMR A. AWAD
PRIMARY EXAMINER

A handwritten signature in black ink, appearing to read 'Amr A. Awad', with a stylized flourish at the end.